

PROCEEDINGS
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NEW SPECIES OF GRASSES FROM SOUTH AMERICA.

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In a recent collection of grasses made by Macbride and Featherstone in Peru, the following new species were found. Parts of the types are in the U. S. National Herbarium. A new species collected by Lützelburg in Brazil is also included, the type in the U. S. National Herbarium.

Bromus villosissimus Hitchc. sp. nov.

A caespitose dwarf perennial with very villous lemmas. Culms glabrous or puberulent, 5 to 12 cm. tall; sheaths pubescent or glabrate; ligule a very short membrane; blades flat or more or less folded or involute, pubescent on both surfaces, 1 to 5 cm. long, 1 to 2 mm. wide; panicle ovoid, 1 to 2 cm. long, consisting of a few contiguous, short-pedicelled spikelets; spikelets mostly 3 to 5-flowered, tawny or tinged with purple, about 1 cm. long; glumes somewhat unequal, rather thin, sparsely villous, acute, 3-nerved, the first 1 cm. long, the second broader and a little longer; lemmas densely villous with spreading or ascending hairs 2 to 3 mm. long, 7-nerved, about 8 mm. long, the apex 2-lobed, the teeth broad and short, the midnerve extending into a scabrous awn 1 to 2 mm. long; palea acute, a little shorter than the lemma, villous-ciliate on the keels.

Type in the herbarium of the Field Museum of Natural History, No. 517,382, collected in loose soil of alpine basin slopes, at about 4700 meters, Casapalca, Peru, May 21, 1922, by Macbride and Featherstone (No. 854).

The only other specimen seen was collected between Casa Caucha and Culea, Peru, by the Wilkes U. S. Exploring Expedition (U. S. Nat. Herb. 1,009,615).

Lamprothyrus peruvianus Hitchc. sp. nov.

Plant perennial; culms erect, stout, glabrous, a meter or more in height; sheaths glabrous, papery, the basal ones not seen, the cauline apparently 3, the uppermost inclosing the base of the panicle, all separating from the culm along the upper part and inrolled, glabrous on both margins and more or less hyaline; ligule a dense row of hairs about 2 mm. long; blades (only the 3 cauline seen) loosely involute, narrower than the sheath at

base, firm, glabrous beneath on the lower part, very scabrous toward the tip, scaberulous on the upper surface, 40 to 60 cm. long (the uppermost about 20 cm.), about 4 mm. wide at base when flat, gradually narrowed to a fine point; panicle dense, 30 to 50 cm. long, 5 to 8 cm. wide, purplish, the axis mostly hidden by the overlapping branches, terete and glabrous below, angled and scabrous above, the branches appressed or ascending, fasciated, the longer ones naked at base, the shorter ones spikelet-bearing to base, the branches and branchlets more or less hispidulous at base, the ultimate branchlets rather slender, the lateral pedicels appressed, 1 to 2 mm. long; spikelets (only the pistillate seen) mostly 4 to 6-flowered, about 1.5 cm. long (excluding awns), the uppermost floret much reduced; glumes narrow, hyaline, 1-nerved, gradually acuminate, a distinct internode between the two, the first about 8 mm. long, the second about 10 mm. long; rachilla readily disarticulating between the florets, the joints about 1 mm. long, long-pilose, the joint below the lower floret about as long as the others; lemma rounded on the back, about 7-nerved, rather sparsely villous all over, the hairs ascending, about 3 mm. long, the tip 3-lobed, the lateral teeth extending into long very slender awns (total length about 9 mm.), the midnerve flat below, somewhat curved outward, extending into a slender flat awn about 2 cm. long, the length of lemma to base of awn about 4 mm.; palea narrow, 2-keeled, scabrous-ciliate on the keels, about as long as the lemma; stamens wanting; ovary 1.5 mm. long; stigmas 1 mm. long, plumose nearly to base; caryopsis 2.5 mm. long, acute at base.

Type in the herbarium of the Field Museum of Natural History, No. 517,715, collected on a shrubby slope, at about 3000 meters altitude, Yunahuanca, Peru, June 16-22, 1922, by Macbride and Featherstone (No. 1205).

The only other specimen seen is from Torontoy, Urubamba Valley, Peru, at an altitude of 2400 meters, June 10, 1915, *Cook & Gilbert* No. 1189, said to be called nihuaichu.

This species differs from *L. hieronymi* (Kuntze) Pilger in the more dense purplish panicle and the longer glumes and lemmas. The glumes of the former are 5 to 7 mm. long, and the lemmas, to the base of the awn, 2.5 to 3 mm. The awns are white and flexuous, while in *L. peruvianus* they are purple and nearly straight. Some of the florets of the type specimen of *L. peruviana* are attacked by insects, forming small galls.

Lamprothyrsus hieronymi and its four varieties are from Argentina and Bolivia. Mandon's No. 1360 from Sorata, Bolivia, and a specimen from Province Jujuy, Argentina, collected in 1916, by S. W. Damon, are this species. The last two and also Fiebrig's No. 2099 (type of *L. hieronymi tincta* Pilger) are pistillate. The type of *L. hieronymi* (*Triraphis hieronymi* Kuntze) is staminate.

Stipa featherstonei Hitchc. sp. nov.

Culms caespitose, erect, glabrous, 2-noded, 20 to 30 cm. tall; sheaths, slightly roughened; ligule on the culm leaves 2 to 3 mm. long, obtuse, firm; blades capillary, involute, glabrous, 5 to 15 cm. long; panicle elliptic, 3 to 4 cm. long, purple, rather compactly few-flowered, the axis, branches

and pedicels glabrous; glumes subequal, broad, abruptly acuminate, glabrous, obscurely 5-nerved, about 7 mm. long; lemma about 4.5 mm. long, the callus rather blunt, 1 mm. long, densely hispidulous with fuscous hairs, the body oblong, somewhat over 1 mm. wide, dark brown, villous all over with brown hairs, scarcely narrowed at summit; awn twice geniculate, twisted below, the first segment rather densely short-villous, 1 to 3 mm. long, the second segment 3 to 4 mm. long, the third about 1 cm. long.

Type in the herbarium of the Field Museum of Natural History, No. 517,331 (in part), collected on upland slope, about 4500 meters altitude, Rio Blanco, Peru, May 8 to 19, 1922, by Macbride and Featherstone (No. 803a). No other specimen has been seen.

The type is mounted with plants of *Stipa hans-meyeri* Pilg.

***Stipa macbridei* Hitchc. sp. nov.**

Culms loosely tufted, spreading at the tough and woody base, several-noded, glabrous, branching at the lower nodes, 60 to 80 cm. tall; sheaths glabrous, minutely pubescent at the throat; ligule very short, the sheaths extending into a short auricle on each side; blades flat or loosely involute, glabrous, 5 to 10 cm. long, about 1 mm. wide; panicle narrow, loose, 10 to 20 cm. long, the branches slender, rather remote, few at each node, the lower as much as 8 cm. long; glumes subequal, acuminate, hyaline, 3-nerved, glabrous, 5 to 6 mm. long; lemma 5 mm. long, the callus densely pubescent, 0.5 mm. long, the body pale, villous all over, gradually narrowed toward the summit, the crown wanting; awn twice geniculate and twisted below, puberulent, 3 to 4 cm. long.

Type in the herbarium of the Field Museum of Natural History, No. 516,986, collected on disintegrating rock slopes, at about 2500 meters altitude, Matucana, Peru, April 12 to May 3, 1922, by Macbride and Featherstone (No. 452). The only other specimen seen was collected on rocky ledge, northwestern exposure, at about 2600 meters, Uspachaca, Peru, June 23, 1922, by Macbride and Featherstone (No. 1317).

***Chloris luetzelburgii* Hitchc. sp. nov.**

Plant annual; culms erect or somewhat spreading at base, terete, glabrous, 50 to 60 cm. tall; sheaths puberulent, ciliate on the margin, somewhat villous at the throat, somewhat keeled but not conspicuously compressed; ligule a short ciliate membrane; blades flat or loosely involute, puberulent on both surfaces, 10 to 20 cm. long, 1 to 3 mm. wide; spikes several, mostly 4 to 6, slender, ascending or appressed, 3 or 4 at the end of the culm and 1 to 3 about 2 cm. below, sometimes another below these, puberulent at the base, 7 to 10 cm. long; spikelets with 1 perfect floret and 1 or 2 rudiments, appressed along the scabrous, angled axis, somewhat distant, the pedicels less than 1 mm. long; glumes pale, narrowly lanceolate, acuminate, 1-nerved, scabrous on the keels, the first about 4 mm., the second about 5 mm. long; first lemma narrow, terete below, hispidulous on the callus, glabrous above, nerveless, rounded on the back, ciliate on

the margins of the upper third or half, 5 to 6 mm. long, the apex slightly 2-lobed, the lobes rounded, the awn from between the lobes, straight, scabrous, about 6 mm. long; the palea a little longer than the lemma, acute; second floret similar to the first but only 3 to 4 mm. long, the axis internode a little more than 1 mm. long, the awn usually shorter; third floret only about 1.5 mm. long, the awn 3 to 5 mm. long.

Type in the U. S. National Herbarium, No. 1,127,373, collected in the Serra do Borborema, State of Parahyba do Norte, Brazil, April, by Lützelburg (No. 12451).

Other specimens examined are:

BRAZIL: Joazeiro, *Dorsett & Popenoe* 411b. Without locality, but presumably Rio de Janeiro, *Capanema* 5469. Fernando do Noronha, *Ridley, Lea & Ramage* in 1887.